

In the specification:

Replace the present application title, at the top of page 1, with the new title set forth below.

RECEIVED

MAY 28 2003

THIOL AND THIOCARBONYL DERIVATIVES WHICH ARE USEFUL AS
CARBOXYPEPTIDASE U INHIBITORS

TECH CENTER 1600/2900

Replace the paragraph on page 1, lines 16-23 with the new paragraph below.

B1 Fibrinolysis is the result of a series of enzymatic reactions resulting in the degradation of fibrin by plasmin. The activation of plasminogen is the central process in fibrinolysis. The cleavage of plasminogen to produce plasmin is accomplished by the plasminogen activators, tissue-type plasminogen activator (t-PA) or urokinase-type plasminogen activator (u-PA). Initial plasmin degradation of fibrin generates carboxy-terminal lysine residues that serves as high-affinity binding sites for plasminogen. Since plasminogen bound to fibrin is much more readily activated to plasmin than free plasminogen, this mechanism provides a positive feedback regulation of fibrinolysis.

Replace the paragraph on page 2, lines 1-3 with the new paragraph below.

B² By inhibiting the loss of lysine binding sites for plasminogen and thus ~~increase~~ increasing the rate of plasmin formation, effective inhibitors of carboxypeptidase U would be expected to facilitate fibrinolysis.

Replace the paragraph running from page 6, line 24 through pages 7, line 4 with the new paragraph below.

B³ The term "heterocyclyl" denotes a substituted or unsubstituted, 4- to 10-membered monocyclic or multicyclic ring system in which one or more of the atoms in the ring or rings is an element other than carbon, for example nitrogen, oxygen or sulfur, especially 4-, 5- or 6-membered aromatic or ~~aliphatic~~ aliphatic heterocyclic groups, and includes, but is not limited to, azetidine, furan, thiophene, pyrrole, pyrroline, pyrrolidine, dioxolane, oxthiolane, oxazolane, oxazole, thiazole, imidazole, imidazoline, imidazolidine, pyrazole, pyrazoline, pyrazolidine, isoxazole, isothiazole, oxadiazole, furazan, triazole, thiadiazole, pyran, pyridine, piperidine, dioxane, morpholine, dithiane, oxathiane, thiomorpholine, pyridazine, pyrimidine, pyrazine, piperazine, triazine,

B3 thiadiazine, dithiazine, azaindole, azaindoline, indole, indoline, naphthyridine groups, and shall be understood to include all isomers of the above identified groups. The term "azetidiny1" shall for example ~~by~~ be understood to include the 2-, and 3-isomers and the terms "pyridyl" and "piperidiny1" shall for example ~~by~~ be understood to include the 2-, 3-, and 4-isomers.

Replace the paragraph on page 7, lines 6-10 with the new paragraph below.

B4 The term "cycloalkyl" denotes a saturated or unsaturated, substituted or unsubstituted, non-aromatic ring composed of 3, 4, 5, 6 or 7 carbon atoms, and includes, but is not limited to, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, ~~cycloheptyl~~ cycloheptyl, cyclobutenyl, cyclopentenyl, cyclohexenyl, cycloheptenyl, cyclopentadienyl, cyclohexadienyl and cycloheptadienyl groups.

Replace the paragraph on page 7, lines 14-16 with the new paragraph below.

B5 The term "aryl" denotes a substituted or unsubstituted C₆-C₁₄ aromatic hydrocarbon and includes, but is not limited to,

B5 phenyl, naphthyl, indenyl, ~~anthracenyl~~, ~~fenantrenyl~~ anthracenyl,
phenanthrenyl, and fluorenyl.

Replace the paragraph on page 7, lines 28 and 29 with the
new paragraph below.

B6 The term "aroylamino" denotes an aroyl-N(Z)-group, wherein aroyl
and Z ~~is~~ are as defined above.

Replace the paragraph on page 7, lines 31 and 32 with the
paragraph below.

B7 The term "acylamino" denotes an acyl-N(Z)-group, wherein acyl
and Z ~~is~~ are as defined above.

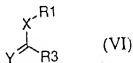
Replace the paragraph on page 8, lines 28 and 29 with the
new paragraph below.

B8 The present invention also provides the processes A-C for the
manufacture of compounds with the general Formula I.

Replace step (c), consisting of the last three lines of
page 9 through page 10, line 5, with the new step below.

(c) Compounds of the general Formula V wherein R₁ and R₃ are as defined for Formula I and X is C(Z)₂ and R₂ is H can thereafter be converted to compounds of the general Formula VI,

B9



by treatment with formaldehyde in the presence of a suitable base, such as Et₂NH, under standard conditions.

Replace the paragraph on page 15, lines 13-20 with the paragraph below.

B10
For clinical use, the compounds of the invention are formulated into pharmaceutical ~~formulations~~ formulations for oral, intravenous, subcutaneous, tracheal, bronchial, intranasal, pulmonary, transdermal, buccal, rectal, parenteral or other mode of administration. The pharmaceutical formulation contains a compound of the invention in combination with one or more pharmaceutically acceptable ingredients. The carrier may be in the form of a solid, semi-solid or liquid diluent, or a capsule. These pharmaceutical preparations are a further object of the invention. Usually the amount of active compounds is between 0.1-95% by weight of the preparation.

Replace the paragraph on page 17, lines 9-18 with the new paragraph below.

It is known that hypercoagulability may lead to thrombo-embolic diseases. Conditions associated with hypercoagulability and thrombo-embolic diseases which may be mentioned include protein C resistance and inherited or acquired deficiencies in antithrombin III, protein C, protein S and heparin cofactor II. Other conditions known to be associated with hypercoagulability and thrombo-embolic disease include circulatory and septic shock, circulating antiphospholipid antibodies, ~~homocysteinemia~~ homocysteinemia, heparin-induced thrombocytopenia and defects in fibrinolysis. The compounds of the invention are thus indicated both in the therapeutic and/or prophylactic treatment of these conditions. The compounds of the invention are further indicated in the treatment of conditions where there is an undesirable excess of proCPU/CPU.

Replace the definition on page 94, line 26, with the new definition below.

TEA = ~~triethylamine~~ triethylamine